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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/734,806 | 12/12/2003 | Karlheinz Bing | BING ET AL.-3 | 2790 |
| 25889 | 7590 | 09/19/2006 | EXAMINER | |
| WILLIAM COLLARD COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576 | | | AFZALI, SARANG | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3726 | |

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,806

Applicant(s)

BING ET AL.

Examiner

Sarang Afzali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed 7/3/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The applicant's amendment filed on 07/03/2006 has been fully considered and made of record.

Claim Objections

2. Claims 1-5 are objected to because of the following informalities: In claim 1, line 16, the limitation "cover surfaces" should read - - contact surfaces - - for more clarity. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1, as amended on 7/3/2006, lines 15-16, recites the limitation of "producing a weld seam that runs over the circumference so that cover surfaces of the parts are free of a weld connection" which is considered new matter since a portion of the contacting surfaces will necessarily become part of the weld connection caused by a weld seam.

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5. Claims 1-5 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for "a weld seam that runs over the circumference", does not reasonably provide enablement for "cover surfaces of the parts free of a weld connection". The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims. It is not clear from the specification that how one skilled in the art is able to do a weld seam running around a circumference of two covering surfaces without having a weld connection, even a minuscule amount, between the joined surfaces in contact. It seems that any type of seam weld, even in closely controlled condition, although negligible, would seem to enter into the area of cover surfaces of the parts in contact.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 & 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT WO 02/06658) and/or in alternative in view of Seilstorfer (DE 19648260 A1).

As applied to claims 1 & 5, WO 02/06658 discloses a method for the production of a forged piston for an internal combustion engine, the piston having a combustion

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depression provided on the piston head, comprising the steps of: forming the piston from a first cylindrical part (14, Fig. 3) having at least one flat face made of oxidation-resistant steel (stainless steel) and a second cylindrical part (16, Fig. 3) having at least one flat face made of hot-forgeable steel (steel SE 4140), with the same diameters, to produce a piston blank (10, Fig. 2), said step of forming comprising: bringing together the parts at their faces and aligning them with respect to their diameters, so that the faces form a minimal projection and parting; connecting the two parts (12, Fig. 3); causing the combustion depression to be formed in the oxidation-resistant steel, and finishing the piston blank via machining to produce a piston ready for installation in the internal combustion engine (Fig. 2).

WO 02/06658 teaches the invention cited including that the parts may be fixed in any suitable way. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have fixed the parts in WO 02/06658 using a seam weld obtained through electron beam welding, which is widely used in the art, in order to achieve the benefits of using such known and widely used welding technique.

In alternative, if the Applicant does not agree that WO 02/06658 teaches the seam welding, DE 19648260 A1 teaches a method of connecting two parts of a piston head wherein both parts are joined by an electron beam welding seam prior to machining (Abstract, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided WO 02/06658 with a suitable means such as an electron beam seam welding as taught by DE 19648260 A1 in order to provide a suitable joint of

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the parts prior to being connected at the connecting surfaces by a hot forging step
(Abstract, lines 1-5).

8. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT WO 02/06658 in view of DE 19648260 A1 and further in view of Rudd (U.S. 3,872,275).

As applied to claims 2 and 3, PCT WO 02/06658/ DE 19648260 A1 teaches the claimed invention with the exception of not explicitly teaching the step wherein the welding is done in a room temperature or in a heated state and the temperature range of 1100°C to 1300°C in the heated state.

However, Rudd teaches a method of forge welding with a continuous weld seam of two dissimilar metal parts in a heated state (wherein a temperature of at least 2000°F equivalent to 1093°C is reached) to forge weld the surfaces of the materials welded to each other (col. 2, lines 45-54). It would have been obvious to one of ordinary skill in the art at the time of invention to have provided WO 02/06658/DE 19648260 A1 with a suitable welding technique as taught by Rudd to provide an effective means of welding a piston assembly.

As applied to claim 4, PCT WO 02/06658/DE 19648260 A1 teaches the claimed invention with the exception of not explicitly teaching the step wherein the heating takes place inductively.

However, Rudd teaches the heating takes place inductively by suitably configuring the induction coil and adjusting its position with respect to the desired weld line and by properly controlling the heating time to provide a continuous forge weld

between the two metal parts without undesirable heating (col. 2, lines 19-26). It would have been obvious to one of ordinary skill in the art at the time of invention to have provided WO 02/06658/DE 19648260 A1 with induction heating step as taught by Rudd to obtain an effective rapid continuous weld seam and without causing undesirable heating hence preventing damage or harmful distortion of portions of the parts outside of the weld area (col. 2, lines 22-26).

Response to Arguments

9. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments, see "Remarks", page 1, paragraph (2), with respect to the objection to the abstract and paragraph (3) with respect to the rejection of claims 1-5 under 35 USC 112 2nd paragraph, have been fully considered and are persuasive. The objection to the abstract and the rejection of claims 1-5 under 35 USC 112 2nd paragraph have been withdrawn.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarang Afzali whose telephone number is 571-272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

S.A.

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9/12/2006


ESSAMA OMGBA
PRIMARY EXAMINER